

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding  
Policies, Procedures and Rules for the  
California Solar Initiative, the Self-  
Generation Incentive Program and Other  
Distributed Generation Issues

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Rulemaking 12-11-005  
(Filed November 8, 2012)

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**OPENING COMMENTS OF FUELCELL ENERGY, INC. ON PROPOSED DECISION REVISING THE  
SELF-GENERATION INCENTIVE PROGRAM PURSUANT TO SENATE BILL 861,  
ASSEMBLY BILL 1478, AND IMPLEMENTING OTHER CHANGES**

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In accordance with the California Public Utilities Commission (Commission) Rules of Practice and Procedure, FuelCell Energy, Inc. (FCE) submits the following opening comments on the May 16, 2016 Proposed Decision modifying the Self-Generation Incentive Program (SGIP) to implement changes pursuant to statute, as required by Senate Bill (SB) 861 (2014) and Assembly Bill (AB) 1478 (2014), and to make other program changes to improve SGIP's ability to achieve its goals. FCE thanks the Commission for considering these comments.

**I. Introduction**

FCE is the largest manufacturer of combined heat and power (CHP) fuel cells, with over 300 megawatts of systems installed or in backlog. We have been publicly traded since the early 1990s, have over 650 employees, and employ about 20 full-time staff in California. Throughout this proceeding, FCE has made an effort to focus on the statutory criteria and state priorities guiding SGIP, and the need for program rules that are effective and forward-looking. We are concerned with several aspects of the Proposed Decision.

## II. Discussion and Recommendations

### a. The Proposed Program Split Between Generation and Storage is Unreasonable.

The Proposed Decision divides SGIP into two funding buckets: 75% storage and 25% generation. In determining the relative size of these buckets, the Proposed Decision includes the following statement: “Energy storage ... represents the most scalable set of technologies to achieve the program goals.”<sup>1</sup>

FCE has no quarrel with the growth potential for energy storage, particularly given California’s storage mandate. But the growth and scalability of customer-sited generation generally, and fuel cells specifically, have been grossly underestimated. According to a May 2016 GTM Research report, “CHP and Fuel Cells 2016-2026: Growth Opportunities, Markets and Forecast,” 11 gigawatts of new customer-sited fuel-based generation will be deployed in the U.S. over the next decade, with California as the leading market.<sup>2</sup>

Moreover, Navigant Research forecasts that global stationary fuel cell revenue will grow from \$1.4 billion in 2013 to \$40.0 billion in 2022, and maintains that “the use of fuel cells as small distributed power plants for grid stabilization or backup is moving forward faster than any other sector in terms of megawatts.”<sup>3</sup>

The market potential for commercial CHP (both fuel cell and combustion) is also expected to experience significant growth between now and 2024. Benefitting from technical improvements, greater system standardization, and cost reductions for smaller-scale units, the

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<sup>1</sup> Proposed Decision, Page 21.

<sup>2</sup> <https://www.greentechmedia.com/articles/read/us-chp-and-fuel-cell-capacity-set-to-grow-by-11-gw-by-2026>.

<sup>3</sup> See, FCE’s January 7, 2016 “Comments of FuelCell Energy, Inc. on Energy Division Staff Proposal for the Self-Generation Incentive Program” in R.12-11-005, Page 16.

market for commercial CHP is expected to grow from approximately \$3.5 billion in 2015 to more than \$14 billion by 2024.<sup>4</sup>

FCE continues to believe that the only equitable allocation of SGIP funds is a 50% storage and 50% generation split. Storage technologies are currently receiving the benefit of eligibility under multiple program initiatives in California, while CHP fuel cell projects rely on this program. Underlying legislation and available evidence do not support an arbitrary allocation of 75% to storage.

**b. Making No Distinction Between Gas Generation Types is Unreasonable.**

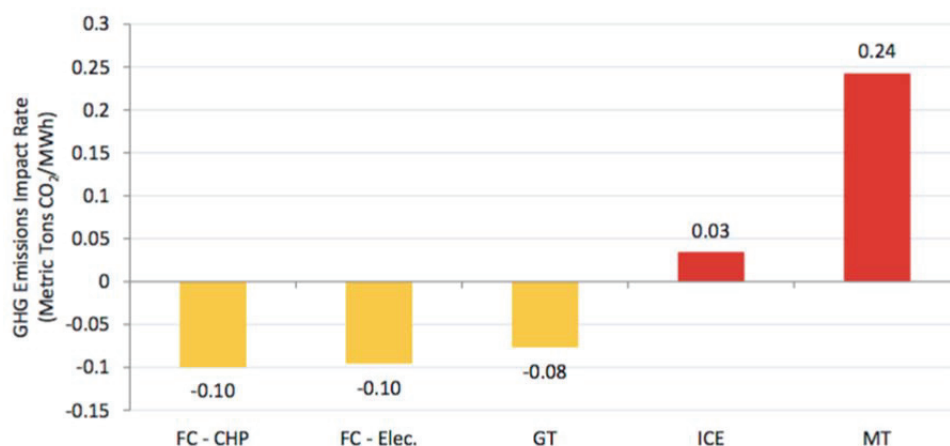
The Proposed Decision recommends drastically reducing SGIP incentives for CHP fuel cells. The proposed initial incentive for non-renewable CHP fuel cells is \$0.60/watt, the same incentive proposed for CHP combustion (such as internal combustion engines). This across-the-board reduction should be modified to properly reflect the relative benefits of CHP fuel cells. Importantly, the 2013 SGIP Impact Evaluation concluded that while non-renewable CHP fuel cells decreased GHG emissions, internal combustion engines and microturbines increased GHG emissions (see below Figure 7-5).<sup>5</sup>

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<sup>4</sup> Id.

<sup>5</sup> 2013 SGIP Impact Evaluation, Chapter 7-6.

**FIGURE 7-5: GREENHOUSE GAS IMPACT RATE BY TECHNOLOGY TYPE (NON-RENEWABLE FUEL)**



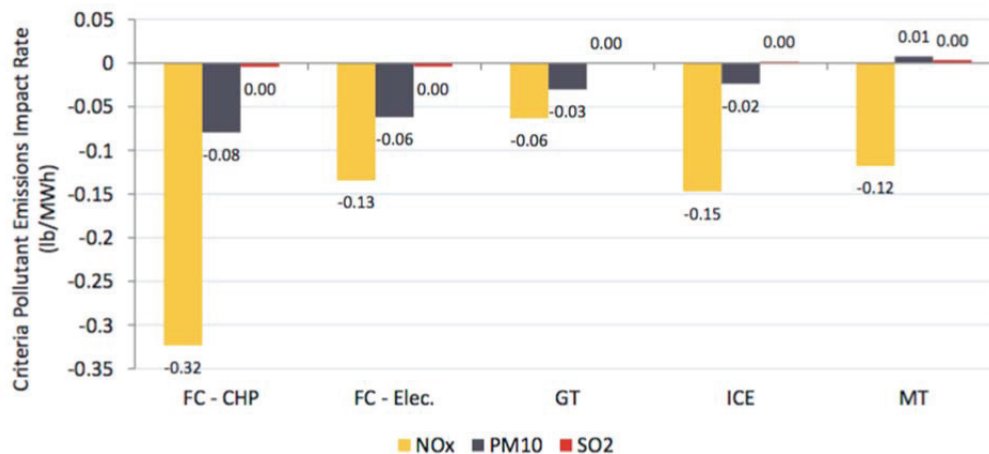
As Itron explains, “CHP fuel cells have a higher emissions rate than the electrical power plants that they avoid but are able to overcome this deficit by recovering useful heat for heating and cooling services. The result is a negative emissions impact relative to the conventional energy services baseline.” Itron continues, “Internal combustion engines ... had high emissions rates and did not recover sufficient useful heat to achieve negative GHG impacts.”<sup>6</sup>

Moreover, according to Itron, no non-renewable technology does a better job of reducing criteria pollutant emissions than CHP fuel cells (see below Figure 7-6).<sup>7</sup>

<sup>6</sup> 2013 SGIP Impact Evaluation, Chapter 7-7.

<sup>7</sup> 2013 SGIP Impact Evaluation, Chapter 7-8.

**FIGURE 7-6: CRITERIA POLLUTANT IMPACT RATE BY TECHNOLOGY TYPE (NON-RENEWABLE FUEL)**



In light of these distinctions, it is not reasonable to propose a dramatic decrease in initial incentives of non-renewable CHP fuel cells (which reduce GHGs) by  $-\$1.05/\text{watt}$  (or  $-64\%$ ) from the current incentive levels, while at the same time proposing an increase in initial incentives for non-renewable internal combustion engines (which add GHGs) by  $\$0.16/\text{watt}$  (or  $38\%$ ). FCE reiterates its recommendation that a base incentive of  $\$1.20$  for CHP fuel cells is justified and reasonable.

### **c. Requirements for Zero Emission Fuel Blending are Unreasonable.**

The Proposed Decision proposes a new requirement that natural gas fueled generation projects begin meeting requirements to blend zero emission fuels starting in 2017.<sup>8</sup> This “significant change to the SGIP program” was not mandated by SB 861 or AB 1478 and was not subject to discussion or analysis in the course of this proceeding prior to its being presented for comments by ALJ ruling on February 25, 2016. FCE supports policies encouraging and rewarding investment in biofuel projects, but opposes the timing and approach to this new

<sup>8</sup> Proposed Decision p.20.

blending requirement, which creates yet another obstacle to the near term development of CHP fuel cell projects that meet and exceed the SGIP program's GHG emissions factor.

FCE has led the way using onsite and directed biogas in innovative CHP fuel cell projects and has as much experience in this area as any company. For the last decade, FCE has been engaged in developing policies to advance a more cost effective and readily available supply of biogas for CHP fuel cell projects. However, these policies have not matured to allow for readily available on-site or in-state directed biomethane for each of our projects.

While FCE fully embraces the Commission's desire to advance more renewable generation and reduce GHG emissions, the Commission has already set a reasonable GHG eligibility threshold that will ensure SGIP projects reduce GHGs compared to the California grid. A zero-GHG fuel blending requirement alters the GHG emission factor adopted by the Commission after a long stakeholder process, and without adequate lead time for planning or adjustment to current market conditions. FCE continues to believe that projects should be allowed to use any percentage of zero-GHG fuel required to meet the GHG emission factor, or more than required, per their discretion.

#### **d. Switching from Annual Allocations May Exhaust SGIP in Weeks or Months**

The Proposed Decision recommends ending the annual allocations of SGIP funding in favor of continuous administration with incentive levels declining based on the capacity reserved in the program "similar to the California Solar Initiative."<sup>9</sup> FCE urges the Commission to reject this recommendation and retain annual allocations.

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<sup>9</sup> Proposed Decision, page 2.



The continuous administration approach disregards input from parties such as Pacific Gas & Electric, who argued in January that a dollar-based rebate decline does not tie the rebate level to actual market transformation. As PG&E explained at the time, “The dollar-based approach would create an enormous stampede, which does not meet the stated program design principles. Because the highest incentives can only be captured by the fastest actors, applicants may submit projects that are not fully thought out or planned, just to get the highest incentives possible.”<sup>10</sup>

PG&E also argued, “...it is reasonable to speculate that the entire 5 year budget could expire in a short period of time too – perhaps weeks or months – leaving nothing for later years. This is a prospect that completely defeats the principles of market transformation, which should occur over time through rational incentive step downs (providing investor confidence) aligned with new policy and market rules.”<sup>11</sup>

If the goal is for SGIP to be eliminated and all funds exhausted as quickly as possible, the Commission is likely to succeed. However, this runs contrary to legislative intent and California’s broader energy and environmental objectives. Doing away with annual allocations will not only create an incentive for non-viable projects, but will also pick winners and losers, since not all technologies and projects have the same planning timeframe. The California Solar Initiative is an excellent model of a large budget, long-term single technology program. However, the CSI incentive structure was not designed for a program like SGIP, which has an extremely limited budget, short-term program authorization, heavy competition for incentives, and diverse technologies and projects competing for the same dollars.

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<sup>10</sup> PG&E Opening Comments on SGIP Staff Proposal (January 7, 2016), page 15.

<sup>11</sup> Id., page 15.

**e. FCE is Encouraged by Discussion of Nonbypassable Charges.**

FCE appreciates the Proposed Decision's brief discussion of the expiration of Fuel Cell Net Energy Metering and the impact of nonbypassable charges on project economics.<sup>12</sup> FCE looks forward to working with the Commission to evaluate these charges in this or a successor rulemaking.

**f. The Proposed "Resolution" of the February 23 Application Process Sets an Unacceptable Precedent.**

FCE is surprised and disappointed that the Proposed Decision recommends "resolving" the failed February 23, 2016 opening by rewarding the party(ies) that disrupted the process with millions of dollars in project awards, closing down the investigation of causes and effects on other participants, and ignoring reasonable requests to void the tainted results and re-open the application process.<sup>13</sup>

To briefly recall what happened, on February 23, 2016, the Commission initiated an application process for one-half of the 2016 SGIP program budget. The process was a documented failure, since certain participants' efforts to game the process by avoiding use of the designated portal had the effect of preventing many other participants from timely submitting applications in a "first-come" manner. One of the identified bad actors, Stem, was the *only participant* able to submit applications for the first two minutes. In the chaos created by Stem and other companies circumventing the applicable rules and norms, many participants that had actually followed the rules, including FCE, were prevented from submitting

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<sup>12</sup> Proposed Decision, page 43.

<sup>13</sup> Proposed Decision, pages 53-54.

applications for their projects and did not even receive a time stamp documenting their attempts to submit applications through the portal.

After receiving letters and complaints from numerous participants, the Commission scheduled a meeting for parties to discuss the problem. The meeting was not part of a formal investigation, but the Commission staff encouraged parties to formally submit their comments and recommendations by filing responses to a petition for modification previously filed by Maas Energy in this docket.

The Commission did not open a formal investigation, and the Commission did not order the obvious and expedient remedy of simply declaring the February 23 process closed and re-running the application process. Instead, in this Proposed Decision, the Commission dismisses the petition for modification as “procedurally improper” and “moot,” and declares that the Commission’s apparent negotiation of a behind-the-scenes plea bargain with Stem results in “significantly more equitable” results.<sup>14</sup> Citing Stem’s motion to withdraw some of its applications, and accept only \$17,815,431 in SGIP funds, the Proposed Decision states that the Commission “considers this issue resolved.”<sup>15</sup>

This portion of the Proposed Decision should be deleted, and the Commission should immediately void the results of the February 23, 2016 process. The proposed “resolution” of the February 23, 2016 debacle is not supported by the findings in the limited investigation reports provided for the record, which document improper acts and a failed process.<sup>16</sup> The

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<sup>14</sup> Proposed Decision, page 54.

<sup>15</sup> Id.

<sup>16</sup> The March 25, 2016 technical memorandum to SGIP Program Administrators and Commission Staff by Energy Solutions finds that Stem and another participant gamed the SGIP process to their benefit (and to the detriment of others) by “non-standard” submissions that did not use the prescribed graphical

Proposed Decision does not discuss the impact of the process on participants, and does not provide findings of fact and conclusions of law squaring the outcome with the record and the law.

Citing Stem's motion as the basis for upholding the process and cancelling the investigation sets a terrible precedent. The Proposed Decision's "resolution" was apparently the result of negotiations that were off the record and did not involve the parties that were harmed by Stem's actions. The Proposed Decision does not discuss whether awarding Stem millions of dollars in applications is a "reasonable sanction" under the SGIP Handbook for a documented violation of the application process,<sup>17</sup> and there is no discussion of whether the outcome constitutes unjust enrichment of Stem at the expense of other participants that did not break the rules. In the interest of good regulatory practice, transparency and fairness, FCE urges the Commission to reject the Proposed Decision's "resolution" of the February 23 issue. Dismissal of the Maas Energy petition may be justified on procedural grounds, but there is no justification for allowing the results of the February 23 process to stand.

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interface, thus violating the Terms of Use. Apparently these and other parties also violated the Terms of Use by submitting the same application multiple times and possibly shared username and password information, another violation of the Terms of Use. The Proposed Decision claims that the submission of this and another Energy Solutions memo was a "relevant event" in this process, but does not discuss the memos' findings. Proposed Decision, page 53.

<sup>17</sup> See SGIP Handbook, page 75 ("If it is determined that a program infraction has been committed, a reasonable sanction shall be imposed at the discretion of the Program Administrator, and may result in a suspension from the SGIP Program for a minimum of six months.")

### III. Conclusion

FCE greatly appreciates the opportunity to make these comments. We are hopeful that the Commission will maintain that CHP fuel cells are an important component of SGIP. We also implore the Commission to reconsider its “resolution” of the February 23 application debacle.

Dated: June 6, 2016

Respectfully submitted,

By: /s/

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## APPENDIX A

### PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

As required by Rule 14.3(c) FCE's proposed changes and additions to the Findings of Fact and Conclusions of Law are provided below.

Finding of Fact 11: On the topic of whether to require all natural gas fueled generation technologies to blend some quantity of zero emissions fuel as a pre-condition of participating in the SGIP program, ~~Bloom Energy's proposal represents the most balanced proposal to we will not set a requirement for minimum zero emission fuel blending at this time and is reasonable, with one significant change, which is to set a minimum fuel blending requirement starting in 2017 since we have not adequately examined availability issues, and because our program already encourages and rewards development of zero emission fuel projects.~~

Finding of Fact 12: ~~While Staff Proposal's recommendation to keep electric-only fuel cells out of the Program is not adopted at this time, it is reasonable to significantly weigh of incentives in the budget towards energy storage is justified in light of the program's goals of reducing GHGs, providing grid support and enabling market transformation.~~

Finding of Fact 15: delete

Findings of Fact 19-23: delete and replace with: While we have considered replacing the current practice of making additional funds available every year with a declining incentive approach similar to the California Solar Initiative, we find that this approach is not appropriate for SGIP, given the program's limited budget, diverse participants, and the fact that our administration of the program is only authorized through 2020.

Conclusion of Law 9: delete

Conclusion of Law 10: Regarding the incentive budget, the Staff Proposal's 75%/25% incentive budget split is not adopted, and we instead adopt a 50%/50% split.

Conclusion of Law 12: Revise to provide base incentive of \$1.20 for fuel cell CHP.

Conclusion of Law 13-19: delete and replace with The Commission will make available an amount for each program year consistent with Public Utilities Code section 379.6(a)(2).

Conclusion of Law 43: Program Administrators will no longer continue to evaluate applications and grant conditional reservations on a first-come-first-served basis ~~but~~ due to an increasingly over-subscribed program where program funds are fully allocated within minutes, and the challenges (as illustrated by our experience on February 23, 2016) of administering a first-

come-first-served process that is transparent, fair to all participants and secure from gaming and manipulation, review of this method is warranted.

Conclusion of Law 48: Maas Energy Works' Petition for Modification of D.15-12-027 is denied. The Commission is completing its investigation of the events of February 23, 2016 and will issue a separate ruling in this proceeding that will: 1) address the findings of the Commission's informal investigation; 2) address appropriate sanctions and remedies; and 3) establish a process through which participants in the failed February 23, 2016 submissions process will be allowed to submit applications under the lottery system described in this decision.